

[54] **MODIFIED CROSSLINKED STROMA-FREE TETRAMERIC HEMOGLOBIN**

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[57]

ABSTRACT

Stroma-free deoxy mammalian tetrameric hemoglobin is crosslinked with certain bis diaspirin esters and modified with pyridoxyl-5'-phosphate followed by reduction to produce bis-diamide covalently crosslinked, pyridoxal-5'-phosphate covalently modified tetrameric hemoglobin wherein the crosslinking and modifying bonds occur in the beta cleft. The modified crosslinked stroma-free tetrameric hemoglobin of this invention is a disease-free, oxygen transporting discrete molecular species, free from cell surface antigens, having use as a substitute for transfusion of red blood cells. This modified crosslinked stroma-free hemoglobin is a stable oxygen carrying protein capable of oxygen delivery to perfused tissue and advantageously remaining in the intravascular space.

23 Claims, 3 Drawing Figures